

What we claim is:

1. A communication system comprising:  
a network unit; and  
a plurality of subscriber units connected to the network unit;  
5 the network unit having means for generating a message in which validity of transmission grant information is set for the subscriber units, means for generating polling information to allocate a transmission grant to the subscriber units by using the transmission grant information, and means for suspending a transmission of the polling information for a fixed time in consideration of a processing  
10 time of the subscriber units from a time when the message has been completely transmitted.
2. A communication system comprising:  
a network unit; and  
15 a plurality of subscriber units connected to the network unit;  
the network unit having means for generating a message in which validity of transmission grant information is set for the subscriber units, means for generating polling information to allocate a transmission grant to the subscriber units by using the transmission  
20 grant information, input disconnection detecting means for detecting a disconnection state of an inputted cell from the subscriber units, and input disconnection detecting switchover controlling means for suspending an input disconnection detecting operation for the transmission grant information of the input disconnection detecting  
25 means for a fixed time in consideration of a processing time of the subscriber units from a time when the message and the polling information have been completely transmitted.
3. A communication system comprising:  
a network unit; and  
30 a plurality of subscriber units connected to the network unit;  
the network unit having means for generating a message in

- which validity of transmission grant information is set for the subscriber units, means for generating polling information to allocate a transmission grant to the subscriber units by using the transmission grant information, input disconnection detecting means for detecting a
- 5 disconnection state of an inputted cell from the subscriber units, and input disconnection detecting switchover controlling means for monitoring a detection result of the input disconnection detecting means from a time when the message and the polling information have been completely transmitted and for validating/invalidating a function
- 10 for the transmission grant information of the input disconnection detecting means after respectively detecting/not detecting an inputted cell of validity/invalidity for the transmission grant information.
4. The communication system as claimed in claim 3 wherein the network unit is further provided with a timer for respectively
- 15 validating/invalidating a function of the input disconnection detecting switchover controlling means according to validity/invalidity of the transmission grant information only after a lapse of a fixed time from a time when the message and the polling information have been completely transmitted.
- 20 5. A communication system comprising:  
a network unit; and  
a plurality of subscriber units connected to the network unit;  
the subscriber units having means for recognizing a setting of validity/invalidity of transmission grant information in a message from
- 25 the network unit, and means for transmitting a message to the network unit when recognizing the setting of the validity/invalidity from the message, and  
the network unit having means for generating the message, input disconnection detecting means for detecting a disconnection state of an
- 30 inputted cell, and means for validating/invalidating the input disconnection detecting means when receiving a message from the

subscriber units.

6. A communication system comprising:

a network unit; and

a plurality of subscriber units connected to the network unit;

5 the network unit having means for managing plural kinds of transmission grant information, means for performing a polling by the transmission grant information, means for detecting transmission grant information coincident with the transmission grant information set from polling information of a same subscriber unit received by the  
10 polling, and subscriber unit identifying means for identifying a kind of transmission grant information based on the detected transmission grant information and for distributing an inputted cell.

7. A communication system comprising:

a network unit; and

15 a plurality of subscriber units connected to the network unit;  
the network unit having means for managing plural kinds of transmission grant information set in a message, means for notifying a switchover of validity/invalidity of the transmission grant information to the subscriber units by a message, and means for executing the  
20 switchover of the transmission grant information within the network unit itself after a fixed time in consideration of a processing time of the subscriber units from a time of the notification, and

the subscriber units having means for executing the switchover of the transmission grant information within the subscriber units  
25 themselves after the fixed time from a reception of the message.

8. A communication system comprising:

a network unit; and

a plurality of subscriber units connected to the network unit;

the subscriber units having means for recognizing a switchover of  
30 validity/invalidity of plural kinds of transmission grant information set in a message, and means for transmitting a message to the network

unit when recognizing the switchover by a message from the network unit, and

the network unit having input disconnection detecting means for detecting a disconnection state of an inputted cell, and means for executing the switchover of the transmission grant information within the network unit itself when receiving a message from the subscriber units and for validating/invalidating the input disconnection detecting means.

9. A communication system comprising:

a network unit; and

a plurality of subscriber units connected to the network unit;

the network unit having means for managing plural kinds of mini cell transmission grant information set in a message, means for notifying a switchover of validity/invalidity of the mini cell transmission grant information to the subscriber units by the message, and means for executing the switchover of the validity/invalidity of the mini cell transmission grant information within the network unit itself after a fixed time in consideration of a processing time of the subscriber units from a time of the notification, and

the subscriber units having means for executing the switchover of the mini cell transmission grant information within the subscriber units themselves after the fixed time from a reception of the message.

10. A communication system comprising:

a network unit; and

a plurality of subscriber units connected to the network unit;

the subscriber units having means for recognizing plural settings of mini cell transmission grant information set in a message, and means for transmitting a message to the network unit when recognizing a switchover of the setting by a message from the network unit, and

the network unit having input disconnection detecting means for

- detecting a disconnection state of an inputted cell, and means for executing the switchover of the setting of the mini cell transmission grant information within the network unit itself when receiving a message from the subscriber units and for validating/invalidating the
- 5 input disconnection detecting means.

11. The communication system as claimed in any one of claims 1 to 8 wherein the transmission grant information includes physical layer OAM cell transmission grant information and data cell transmission grant information.